REMARKS

1. STATUS OF THE CLAIMS

Claims 1-6, 17, 18, and 23-28 are pending.

Claims 1-6, 17, 18, 23, and 24 are rejected

Claims 1, 17, and 23 are currently amended. Support for these amendments can be found throughout the specification, claims, and drawings as originally filed.

Claims 7-16 and 19-22 were previously cancelled without prejudice.

Claims 25-28 are new. Support for these new claims can be found throughout the specification, claims, and drawings as originally filed.

Applicants respectfully disagree with Line 4a of the Office Action Summary, which states claims 24, 25, 28, 29, 33, and 34 are withdrawn from consideration. Applicants respectfully submit that claim 24 has not been withdrawn and is currently pending, and that the present application has never included a claim 25, 28, 29, 33, or 34.

2. CLAIM OBJECTIONS

The Examiner in the latest Office Action objected to claim 1 as including an informality. Applicants have amended independent claim 1 to correct this typographical and/or grammatical error, as suggested by the Examiner, and respectfully request withdrawal of the objection to amended independent claim 1. Additionally, Applicants have amended independent claim 17 to correct a similar typographical and/or grammatical error.

3. REJECTION OF CLAIMS 1-6, 17, 18, 23, AND 24 UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner in the latest Office Action rejected claims 1-6, 17, 18, 23, and 24 under 35 U.S.C. § 112, second paragraph, as being indefinite, and stated that claims 1, 17, and 23 do not define what is being operated, and claims 2-6, 18, and 24 are dependent thereon, respectively. Applicants have amended independent claims 1, 17, and 23 to set forth that a controller is

configured to effect automatic operation of an exterior light. Therefore, Applicants respectfully submit that independent claims 1, 17, and 23 are definite as identifying what is being operated, and respectfully request withdrawal of the § 112, second paragraph, rejection as to claims 1-6, 17, 18, 23, and 24, as amended.

4. DOUBLE PATENTING

The Examiner in the latest Office Action rejected claims 1-6, 17, 18, 23, and 24 on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 7,565,006. Applicants respectfully disagree with the Examiner's double patenting rejection. Nevertheless, in order to expedite the prosecution of this application, Applicants have filed a Terminal Disclaimr with this Reply to obviate the non-statutory obviousness-type double patenting rejection, thereby rendering this rejection moot.

5. REJECTION OF CLAIMS 1-4 AND 6 UNDER 35 U.S.C. § 103(a)

The Examiner in the latest Office Action rejected claims 1-4 and 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,254,259 issued to Kobayashi (hereinafter "Kobayashi") in view of Japanese Patent No. JP 01-281496 filed by Kiyotaka (hereinafter "Kiyotaka"). Applicants have amended claim 1, and respectfully traverse the § 103(a) rejection as to claims 1-4 and 6, as amended, for the reasons set forth below.

The Manual of Patent Examining Procedure (MPEP) states that an Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. MPEP § 2142. The combination of prior art references must have been "obvious to a person with ordinary skill in the art." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007). To establish a case of *prima facie* obviousness, there must be some apparent reason why a person of ordinary skill in the art would combine the references, and the analysis should be made explicit. *Id.* at 1741; MPEP § 2142. Further, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka,* 490 F.2d 981 (CCPA 1974). If the prior art does not teach or suggest all of the claim limitations, the Examiner must

explain why the differences between the prior art and the claimed invention would have been obvious to one having ordinary skill in the art. MPEP § 2143. Further, dependent claims include all the limitations of the claims with which they depend. MPEP § 608.01(n).

Amended independent claim 1 sets forth a vehicle exterior light control system including a controller configured to effect automatic operation of an exterior light as a function of an ambient light value, wherein the ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer, the controller is further configured to generate an exterior light control signal as a function of the presence of an atmospheric condition of interest, wherein the controller is further configured to distinguish between reflections off of a highly reflective surface and reflections off of atmospheric conditions of interest, wherein an exterior light control output of the controller is in a first state when reflections off of a highly reflective surface are detected and the exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected. Applicants respectfully submit that one having ordinary skill in the art would not have been taught or suggested to arrive at each and every element of amended independent claim 1, including these limitations, in view of Kobayashi and Kiyotaka for the reasons set forth below.

The Examiner in the latest Office Action interpreted Kobayashi to teach an automatic vehicle exterior light control system including a controller configured to effect automatic operation as a function of an ambient light value, further configured to generate an exterior light control signal as a function of the presence of an atmospheric condition of interest, wherein the controller is further configured to distinguish between reflections off of a highly reflective surface and reflections off of atmospheric conditions of interest, wherein an exterior light control output of the controller is in a first state when reflections off of a highly reflective surface are detected and the exterior light control output is in a second state when reflections off of atmospheric conditions of interest are detected (col. 4, lines 1-16). Further, the Examiner in the latest Office Action interpreted Kiyotaka to teach a dimming controller for a vehicle, wherein the ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer.

Applicants respectfully submit that Kobayashi teaches a vehicle lamp system (1) that includes an environmental detection means (2), illumination control means (3), a lamp (4), and a driving means (5), wherein the environmental detection means (2) includes an image capturing means (2a), weather analysis means (2b), road surface analysis means (2c), and reference data acquisition means (2d) (col. 2, lines 53-61). Applicants respectfully submit that Kobayashi further teaches the weather analysis means (2b) detecting weather conditions immediately outside the vehicle by receiving image data from the image capturing means (2a) or the information from the reference data acquisition means (2d) (col. 3, lines 1-5). Additionally, Applicants respectfully submit that Kobayashi teaches the road surface analysis means (2c) determining conditions of the road surface by receiving the image data from the image capturing means (2a) or from the reference data acquisition means (2d), wherein a contrast in brightness of a mark on a road is analyzed, and the road surface analysis means (2c) determines the road surface conditions or geometry of a traveling path from a magnitude in the contrast (col. 3, lines 6-22).

Furthermore, Applicants respectfully submit that Kiyotaka teaches a dimming controller of a display device for a vehicle, wherein the display device is an interior dashboard or instrument panel. Additionally, Applicants respectfully submit that Kiyotaka teaches plural light detecting means (M1) arranged in the vehicle to detect an intensity of light entering the vehicle from external sources (i.e., ambient light), and a selecting means (M3) that determines weighting a respective detection results based on combinations of a plurality of discrimination results that are obtained by comparing detections results with a preliminarily determined prescribed value. A calculating means (M4) calculates a weighting average value of respective detection results of light detecting means (M1), and in accordance with the weighting average value, the dimming command is outputted to a dimming means (M2) by a control means (M5). Thus, Applicants respectfully submit that the luminous display part of Kiyotaka is dimmed based upon ambient light.

First, Applicants respectfully agree with the Examiner's statement on page 8 of the latest Office Action that Kobayashi does not expressly disclose an ambient light being a weighted average of a plurality of ambient light level readings acquired from a phototransducer.

Furthermore, Applicants respectfully submit that when viewing Kobayashi and Kiyotaka as a whole, as required by MPEP § 2141.02(VI), these references are not properly combinable since such a combination is based upon impermissible hindsight contrary to MPEP § 2145(X)(A), as these references teach away from one another and Kiyotaka renders Kobayashi inoperable for its intended purpose (MPEP § 2145 (X)(D)). In other words, Applicants respectfully submit that Kobayashi teaches an illumination control system (17) and a controller (18), wherein the controller (18) receives, as input signals, and input data, a signal output from an automatic headlamp switch (19), weather information from a road-to-vehicle communication/navigation device (20), a signal output from a wiper control switch (21), a detection sensor (22), an information on a result obtained by an image captured by a CCD camera (23) and subsequently analyzed by an image analysis device (24), and a detection signal output from an outside air/humidity sensor (25) (col. 9, lines 4-10). Additionally, Applicants respectfully submit that Kobayashi teaches that the extraneous light is determined by the image captured by the CCD camera (23) and the detection signal from the extraneous light detection sensor (22), and when the surroundings are found to be dark, small lamps are illuminated, and when the surroundings are found to be completely dark, the headlamps (26) are illuminated (col. 9, line 63 - col. 10, line 8).

Applicants respectfully submit that Kiyotaka teaches properly keeping the dimming state of the luminous display based upon weighted average value of results obtained by several light detecting means (M1). Thus, Applicants respectfully submit that Kiyotaka is teaching the dimming of an instrument panel, which is generally known to dim during nighttime conditions when there are dark ambient light conditions and be brightened during daytime or bright ambient light conditions. Applicants respectfully submit that Kobayashi would be rendered inoperable for its intended purpose if the headlights were dimmed during nighttime conditions and brightened during daytime conditions, as taught by Kiyotaka. Moreover, Applicants respectfully submit that Kobayashi would be rendered inoperable for its intended purpose if the headlights were brightened during nighttime conditions when a secondary vehicle is shinning its headlights at the control vehicle and bright "ambient" light is detected, as taught by Kiyotaka. Put another way, Kobayashi would be rendered inoperable for its intended purpose if the lights brightened

when an oncoming vehicle was detected, as taught by the control means (M5) of Kiyotaka. Therefore, Applicants respectfully submit that Kobayashi and Kiyotaka when viewed as a whole (MPEP § 2141.02(VI)), is based upon impermissible hindsight (MPEP § 2145(X)(A)), as these references teach away from one another and Kiyotaka renders Kobayashi unsatisfactory for its intended purpose (§ 2145(X)(D)). Therefore, Applicants respectfully submit that Kobayashi in view of Kiyotaka cannot be combined, and would not have otherwise rendered these claims obvious. Thus, Applicants respectfully request withdrawal of the § 103(a) as to amended independent claim 1.

Likewise, dependent claims 2-4 and 6 are directly or ultimately dependent upon amended independent claim 1, and include all the limitations thereof. For at least the reasons set forth above, Applicants respectfully submit that Kobayashi does not teach or suggest to one having ordinary skill in the art to arrive at each and every element of amended independent claim 1, and that Kiyotaka fails to teach or suggest the aforementioned deficiencies of Kobayashi. More specifically, Applicants respectfully submit that Kobayashi in view of Kiyotaka are improperly combined. Thus, Applicants respectfully request withdrawal of the § 103(a) rejection as to dependent claims 2-4 and 6.

6. REJECTION OF CLAIMS 5, 17, AND 18 UNDER 35 U.S.C. § 103(a)

The Examiner in the latest Office Action rejected claims 5, 17, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi in view of Simpson et al., "A Recurrent Neural Network Classifier for Improved Retrievals of Areal Extent of Snow Cover," IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING, Vol. 39, No. 10, October 2001, (hereinafter "Simpson"). Applicants have amended independent claim 17, and respectfully traverse the § 103(a) rejection as to claims 5, 17, and 18, as amended, for the reasons set forth below.

Amended independent claim 17 sets forth an automatic vehicle exterior light control system including a controller configured to effect automatic operation of an exterior light as a function of an ambient light value, wherein the ambient light value is a weighted average of a

plurality of ambient light level readings acquired from a photo transducer, the controller is further configured to identify the source of a reflection in an image by employing at least one of the parameters selected from the group including mean grayscale value of at least a portion of at least one image, total grayscale value of at least a portion of at least one image, average grayscale value of at least a portion of at least one image, slope of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, intercept of pixel column location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, slope of pixel row location versus pixel grayscale value of at least a portion of a column of pixels within at least one image, a coefficient of determination, parabolic fit of at least a portion of column pixel value averages in at least one image, multiple images of differing exposure times, inputs from vehicle pitch sensors, a low-pass filter applied to at least a portion of an image, gradual vertical cutoff in at least a portion of pixel rows within at least one image, row average grayscale value net increase moving downward in at least one image, white-to-red ratio of at least one pixel in at least one white image and at least one pixel in at least one red spectral filtered image, sum of average grayscale values for at least one row in at least one image, increase brightness of controlled vehicle's exterior light and detect increase in reflection, at least one probability function, and at least one neural network, wherein a state of an exterior light control output of the controller is at least partially dependent upon the source of the reflection in the image. Applicants respectfully submit that one having ordinary skill in the art would not have been taught or suggested to arrive at each and every element of amended independent claim 17, including these limitations, in view of Kobayashi and Simpson.

Applicants respectfully submit that Simpson teaches an accurate detection of aerial extent of snow in mountainous regions (Abstract). Applicants respectfully submit that Simpson further teaches a feed-forward neural network (FFNN) being used to classify individual images, and a recurrent neural network (NN) is used to classify sequences of images, wherein continuous outputs of the NN, combined with a linear mixing model, provides support for mixed-pixel classification (Abstract).

Applicants respectfully submit that the Examiner in previous Office Actions that resulted in Applicants filing the Appeal Brief on May 17, 2010, included claims 5, 17, and 18 being rejected in view of Kobayashi and Simpson. Applicants respectfully agree with the Examiner's statements on pages 2 and 8 of the latest Office Action that Kobayashi fails to teach a controller configured to effect automatic operation as a function of an ambient light value, wherein the ambient light value is a weighted average of a plurality of ambient light level readings acquired from a phototransducer and that the previous rejections were withdrawn. Therefore, Applicants respectfully submit that it is improper for the Examiner to withdraw the previous rejection on page 2 of the latest Office Action and then reinstate the rejection on page 9 of the latest Office Action. Therefore, Applicants respectfully submit that claims 5, 17, and 18 are in condition for allowance which action is hereby respectfully requested.

7. REJECTION OF CLAIMS 23 AND 24 UNDER 35 U.S.C. § 103(a)

The Examiner in the latest Office Action rejected claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,798,911 issued to Josié (hereinafter "Josié") in view of U.S. Patent No. 5,963,148 issued to Sekine et al. (hereinafter "Sekine"). Applicants have amended independent claim 23, and respectfully traverse the § 103(a) rejection as to claims 23 and 24, as amended, for the reasons set forth below.

Applicants respectfully submit that that amended independent claim 23 sets forth a controller configured to affect automatic operation of an exterior light as a function of an ambient light value, wherein the ambient light value is a weighted average of a plurality of ambient light level readings acquired from a photo transducer. Thus, by controlling an automatic operation as a function of a weighted average of ambient light, the system can continue to perform during imager blockage and/or faulty imager detection. Applicants respectfully submit that Josié in view of Sekine does not teach or suggest such a weighted average, and instead, Josié teaches a light sensor arranged externally on the vehicle and measuring the external light intensity independently of instantaneous dazzling, shade, and the like (col. 9, lines 5-10), and Sekine fails

to teach or suggest the aforementioned deficiencies of Josié. Applicants respectfully submit that an average external light intensity, which must be independent of other light in the viewing area of Josié does not teach or suggest to one having ordinary skill in the art to arrive at a weighted average, as set forth in amended independent claim 23. Further, Applicants respectfully submit that the image captured by a video camera and temperature profile detected by an infrared camera, and superimposed on the image for a navigation system, as taught by Sekine, fails to teach or suggest a weighted average, as set forth in amended independent claim 23. Therefore, Applicants respectfully submit that Josié in view of Sekine does not teach or suggest to one having ordinary skill in the art to arrive at each and every element of amended independent claim 23, and that these references would not have otherwise rendered this claim obvious. Thus, Applicants respectfully request withdrawal of the § 103(a) rejection as to amended independent claim 23.

In other words, Applicants respectfully submit that Josié teaches an external light sensor arranged externally on the vehicle for measuring the average external light intensity independent of instantaneous dazzling, shade, and the like, and passes the corresponding signals to the control means (60) (col. 9, lines 5-10). Thus, Applicants respectfully submit that Josié does not teach the use of "weighted averages" that are supplied to a light sensor. Moreover, Applicants respectfully submit that Sekine teaches an image of a road area ahead of a vehicle being formed based on road data read from a navigation system or based on an image shot by a camera means such as a video camera, wherein a temperature profile ahead of the vehicle detected by a temperature detecting means, such as an infrared camera, is superposed on the image of the radio area.

In contrast, amended independent claim 23 recites a controller configured to affect automatic operation as a function of an ambient light value, wherein the ambient light value is a *weighted average* of a plurality of ambient light level readings acquired from a photo transducer. Thus, by controlling an automatic operation as a function of a weighted average of ambient light, the system can continue to perform during imager blockage and/or faulty imager detection. Applicants respectfully submit that the limitations of amended independent claim 23 simply are

not taught nor suggested in Josié or Sekine. Thus, Applicants again respectfully request withdrawal of the rejection under § 103(a) as to amended independent claim 23.

Likewise, dependent claim 24 is dependent upon amended independent claim 23, and includes all the limitations thereof. For at least the reasons set forth above, Applicants respectfully submit that Josié does not teach or suggest to one having ordinary skill in the art to arrive at each and every element of amended independent claim 23, and that Sekine fails to teach or suggest the aforementioned deficiencies of Josié. More specifically, Applicants respectfully submit that Josié in view of Sekine fails to teach or suggest to one having ordinary skill in the art to arrive at, *inter alia*, a controller configured to effect automatic operation as a function of an ambient light value, wherein the ambient light value is a weighted average of a plurality of ambient level readings acquired from a photo transducer, as set forth in amended independent claim 23. Therefore, Applicants respectfully submit that Josié in view of Sekine does not teach or suggest to one having ordinary skill in the art to arrive at each and every element of dependent claim 24, and that these references would not have otherwise rendered this claim obvious. Thus, Applicants respectfully request withdrawal of the § 103(a) rejection as to dependent claim 24.

8. NEW CLAIMS

Applicants have added new dependent claims 25-28, and respectfully submit that support for new dependent claims 25-28 can be found throughout the specification, claims, and drawings as originally filed. Applicants respectfully submit that new dependent claims 25-28 are directly or ultimately dependent upon amended independent claim 1, include all the limitations thereof, and that new dependent claims 25-28 are in condition for allowance, which action is hereby respectfully requested.

CONCLUSION

For all of the foregoing reasons, Applicants respectfully submit that claims 1-6, 17, 18, and 23-28, as amended, are in condition for allowance, which action is hereby respectfully requested. If the Examiner has any questions or comments with respect to this Amendment and Reply, the Examiner is encouraged to contact the undersigned at 616.949.9610.

Please charge any additional fees and credit any overpayments associated with this Amendment and Reply to Deposit Account No. 16-2463.

Respectfully submitted,

November 4, 2010
Date

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